RESEARCH PROSPECTS IN THE PSYCHOLOGY OF AGEING

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MARQUIS (1948) has suggested that psychological research can be carried on at three fairly distinct levels: isolated experiments on particular topics, programmes of work on general topics, and long-term investigations of whole areas. This report is intended as a contribution to the third level, i.e. the level of *policy design*, and makes recommendations about the general nature and scope of psychological research on maturity and old age. The advantages of a generally accepted but informal research policy are clear: basic problems are located and adequate methods are developed for tackling them, theoretical systems become strongly linked with practical issues to the benefit of both, knowledge is more readily communicated because research workers have a common frame of reference, research findings become progressively more comprehensive, detailed, accurate and meaningful, and so on. Possible disadvantages are that originality may be curtailed and work may be duplicated, but it is doubtful whether the former is a real danger or the latter a real disadvantage. This report is not intended to specify particular research projects or programmes—this could be done only after discussion between members of research teams, their sponsors and advisers—the final choice of project depends very much on the interests and abilities of the team members and on the human ecology of the area in which they are working.

The years following adolescence are essentially years of change and readjustment, generally gradual and superficial but sometimes rapid and radical, and always cumulative. These changes are extremely complex, varied and interdependent, and they manifest themselves in all aspects of living: our bodies lose their vigour and adaptability, and we turn from violent and risky exercise to more leisurely and comfortable pastimes; our intellects lose their speed, power and originality, and we become more and more dependent upon habit and experience; our senses lose their acuity, and stimuli need to become increasingly strong before they evoke a response; our personalities lose their plasticity, and we find difficulty in learning and coping with change; the establishment of a place in society brings with it increased opportunity for leisure-time pursuits and the company of other people, yet we often fail to take advantage of these chances to better our personal conditions and enrich our inner lives; the nervous-system and the body's complex physiological structures decay—they are more prone to disease and breakdown—and this has undesirable effects on adjustment and productivity. Later maturity and old age promise us a melancholy future for we can do little at the moment to make our later years compare at all favourably with the vigour and originality of youth or the achievement of early maturity. *The specific task of psychology within the general field of gerontology is to point the way toward reduced stress and greater achievement during the mature and declining years.* This task has two aspects—that of preventing or reducing all kinds of psychological and social

deficit after maturity by promoting those influences early in life which make for all-round adjustment and achievement during adulthood, and that of alleviating deficit by encouraging those here-and-now influences in adult life which make for happiness and productivity.

Until recently, the psychological study of ageing was a neglected subject: the known facts are few, of doubtful validity, contradictory and poorly co-ordinated. Our thinking about ageing is distorted by false assumptions, unwarranted generalizations and subtle prejudices. Even in those fields which have been most fully explored, e.g. intelligence and sensori-motor skills, the findings are meagre compared with what we would like to know, and seventy years of *ad hoc* research since Galton has barely scratched the surface. As a general area of research the psychological study of maturity and ageing is wide open and promises a rich harvest. However, like most new ground, it needs to be cleared of obstructions and of these there is no shortage: we shall be dealing with people, and the ageing and aged are not the easiest people to deal with (although they are by no means the most difficult!); we must make provision for long-term follow-up studies otherwise we shall be using subjects whose past history will have to be reconstructed and therefore liable to error; often we shall find that only volunteer subjects are available, and volunteers are not representative of the population from which they are drawn, e.g. a volunteer group recently investigated by this author had an average Wechsler-Bellevue I.Q. of 120; hence the tasks of sampling, matching, and generalization of results will be difficult, although recent advances in non-parametric statistics (Savage, 1953) and rank-correlations (Kendall, 1948) have enabled us to conduct numerous experiments with small samples and have freed us from doubtful assumptions about underlying distributions. The tests and techniques that we use with children and young people are unsuitable for adults, and we have few norms for change and decline after maturity; this means that we have the task of constructing new techniques or adapting old ones, of standardizing them and establishing norms. Older people need more time, they get tired and upset easily, so that the experimenter must be patient, observant, and skilled in handling them; he will find that many of them have commitments, and that he will have to fit in with their available times and take his laboratory to them rather than *vice versa*. Group testing methods are often inadvisable, and the investigator will need time, money and assistance in handling individuals and small groups. We cannot yet turn to comparative studies for help, since such studies are virtually non-existent.

The obstructions mentioned are by no means irremovable, but they force the would-be experimenter to think hard about three fundamental topics: (*i*) Problems, (*ii*) Methods, and (*iii*) Theories.

(*i*) Problems

(*a*) The largest and most important single area in the psychology of ageing is that of *personality*, for personality is the proper focus of most psychological research and it is within the individual person that such processes as thinking, perceiving, social behaviour, skill, motivation and feeling have their origins and basis, and they can be adequately understood only as aspects of a whole living person. The crucial problem is to find out what age changes occur in the nature and organization of traits and in the dynamics of basic processes. We also want to understand the nature of maturity and discover how to exploit its potentials, e.g. maintain its insight, objectivity, drive and originality; cultivate its humour, emotional control and expression; deepen its empathy, appreciation,

philosophy and sense of values; and aid its fight for achievement and security by providing a stimulating environment and encouraging a suitable climate of opinion. In order to do this, we shall have to compile and keep up-to-date norms of adult behaviour and experience every bit as detailed as our present norms of development; we must learn how to keep track of changes in interests, activities, occupational adjustment, reactions to frustration, attitudes and preferences; we shall have to account for the tremendous individual differences between older people, their personal variability and their particular deviations from the ideal. But our inquiries should not be limited to strictly psychological topics, for we need information on the concomitants of personality change, e.g. the effects of heredity and biological conditions, socio-economic class, roles and statuses; the environment changes as well as the person, and if we can discover causal relationships between personality variables and environmental factors, then we are on the way to understanding and controlling age changes in human behaviour and experience. If the ageing personality has its defects and inconveniences, then we should search for its compensations and rewards. The amount of work done on personality changes in later maturity and old age is not inconsiderable, but it is heterogeneous and adds up to little more than a collection of preliminary inquiries using provisional tools and makeshift hypotheses. Psychological research in gerontology is likely to remain at this stage unless there is a policy to which people can conform and through which they can co-ordinate their ideas and plans, and interpret their findings.

(*b*) The next most important field concerns the *physical basis of adult behaviour and experience*. For the most part, of course, the psychologist can rely upon the geriatrician to provide him with the answers, but there are certain problems which are of special significance to him and which are amenable to his analysis, e.g. susceptibility to fatigue, stress and anxiety are important factors in occupational adjustment; respiration, circulation, personal tempo, steadiness and energy, etc. have important psychosomatic implications; the analysis of physique-temperament changes with age may throw new light on the physical basis of moods and dispositions; studies of age-trends in sex-differences will undoubtedly be of great interest apart from their possible value in contributing to our meagre knowledge and understanding of sex-linked psychological processes; the outward and visible signs of ageing are no sure guide to the biological and psychological condition of the organism, but a recent study by Benjamin (1947) has made it easier for us to study the "biological age" of our subjects, and we are to some extent freed of the ambiguous notion of "chronological age". The neurology and pathology of ageing may be expected to throw light on the psychology of growing old, and there is ample room here for inter-disciplinary research work. In his laboratory the psychologist can put to work his polygraph, dark-vision and colour-vision apparatus, his electro-encephalogram, kymograph, conditioning unit, and perhaps even his X-ray equipment in his endeavours to explore basic psychological processes; but laboratory studies are not enough, for within the organism there are many compensatory and interlinked processes which determine its unique adjustment to its environment, and we can only fully understand them in the long run by observing and controlling their operation in real-life situations.

(*c*) Perhaps the next largest area is that of *intelligence, thinking and achievement*. The ground has been cleared already to some extent by Wechsler (1944), Cattell (1943) and Lehman (1953), etc. and we have a small choice of tools and concepts to work with; we know roughly where to carry on the work and have norms to refer to. However, we need to formulate our problems more

clearly, elaborate our concepts, and standardize and improve our tools, e.g. the notion of "fluid" and "crystallized" ability is as yet only a crude approximation to the complex nature of adult intellectual organization; we have no maps of the intellect at different age-levels; changes in the quality and level of cognitive operations undoubtedly occur, yet, except for isolated studies of animism in senescence, e.g. Dennis and Mallinger (1949) and qualitative intellectual changes, e.g. Bromley (1956) we have no systematic studies in this field. Memory and imagination play an important part in the intellectual life of all classes of people, yet our ability to enrich these talents or retard their decline is negligible. Practice and experience increase with age but the results are not always beneficial: we want to know how to help the ageing person to retain his intellectual freshness and rid himself of superfluous experience; in order to do this we must carefully investigate the problems of abstraction, generalization, creative thinking and transfer of training. We should look at ordinary educational practices more carefully and find out whether we can improve the level of adult intellectual achievement, and ponder (cf. McLeish, 1952) whether we have even begun to understand the nature of adult learning. Complex mental skills such as logical analysis, mathematical computation, aesthetic appreciation, and fluent speech and writing are the end-products of long years of learning; we want to improve their status or at least retard their decline toward irrationality, guesswork, dogmatism, platitudes and incoherence. We need to know how far a lively adult intellect depends upon original ability, early experience, frequent exercise, interest, stimulation, and a sound body; these are important basic problems and we have no entirely satisfactory answers. Many occupations demand high levels of intelligence and experience, but even doctors, research-workers, politicians, engineers and administrators grow old and find their planning, assimilation of information and decision-making impaired; so that in the long run age changes directly affect our standards of living; however, our understanding of this complex scientific and social problem must necessarily await the solution of more basic problems.

(*d*) Linked with the study of decaying intellect is the study of age changes in *perceptual, learning and response processes*. The basic work on the special senses fortunately seems to be well under way, but psychologists have barely made a start on the problems encountered by the older person in his perception of space, time, colour and movement, etc. Welford (1950) has provided us with a series of careful analyses of the older person's capacity for dealing with complex, co-ordinated learning and serial tasks, but we are a long way from listing basic occupational skills and abilities or plotting expected yearly changes in psychomotor performance. All aspects of conditioning and learning are important, e.g. in occupational training and adaptation, yet little or no attempt has been made to assess the usefulness of learning theory in studying age changes in sensori-motor performance or even to consider this new field as a potential testing ground for rival theories. It is in this field, perhaps, that comparative studies of ageing would be most fruitful. Occupational hazards and stress are important factors to consider in connection with the ageing worker; we are far from a complete understanding of age changes in accident rates, work curves, productivity and job satisfaction, etc., yet work along these lines is well advanced, e.g. King and Speakman (1953) (see also International Association of Gerontology, 1955), and Le Gros Clark (1955), and could be easily extended to age problems in production lay-out, mobility of labour and training schemes. Attitude to work is an important factor in happiness, adjustment and productivity, but interests and abilities change with age, and the occupational

demands and rewards suitable at age thirty are no longer so congenial twenty or thirty years later—this holds for all kinds of work, including the professions, and presents an interesting psycho-economic problem.

(*e*) The next most important problem in the psychological study of ageing is that of *social behaviour*. Loneliness, social tensions, marital unhappiness and prejudice are not only academic problems but also real live issues affecting the lives and adjustments of many people; they are important stresses in adulthood that might be more easily alleviated if we knew more about the conditions governing their origins and development. Old age has its additional special problems: retirement, loss of spouse and children, infirmity, and reduction in power and status, each of these often a severe blow to an already severely impaired personality. The social climates in which older people live have been usefully studied by Simmons (1945) and might be responsible for much that is depressing about old age, as they are for many of the difficulties of childhood and adolescence. In the field of social learning we can study transfer of training, leadership, perception and social thinking. At higher levels of analysis we might profitably investigate informal group processes, e.g. club activities, neighbourhood relations, and even social movements. We do not know whether old age makes us more tactful, group-cohesive and democratic or more insensitive, egocentric and authoritarian; it would be strange indeed if the cumulative effects of age on status and personality did not have far-reaching effects on the social process.

(*f*) Old age presents a number of additional *special problems* peculiar to itself, e.g. we do not know the final limits of intellectual, personal and social decline; we are uncertain of the underlying distributions of and age trends in adult psychological variables because of the selective effects of death; we have too little information about the most effective counselling and retraining methods for mature and old people even in respect of recurrent stresses like retirement, bereavement, physical and mental dilapidation, etc.; we do not know how or to what extent motivational forces change with age, and until we do we shall be unable to introduce effective incentive schemes or use effective methods of persuasion. Personality factors in thinking seem to become increasingly important as age advances: uncertainty, rigidity, lack of interest, etc. all conspire to inhibit the gradually declining intellect; hence a thorough analysis of the non-intellectual factors in cognition is a key-problem in the understanding of adult thought processes and creative achievement. The study of the psychopathology of ageing is becoming increasingly important (cf. Mayer-Gross, Slater and Roth, 1954) and presents immense problems of diagnosis, prevention and treatment, for which the psychologist will be expected to help provide solutions.

(*ii*) METHODS

(*a*) If one considers the *methodology* of psychological research on ageing, then one sees that we have as yet developed few special techniques for exploring this difficult field; we have not even adapted standard procedures and tests to the task, but have blindly hoped that they would work well on tasks for which they were never intended. We should make greater use of twin studies (Kallman and Sander, 1952); the critical-incident technique (Flanagan, 1954): animal experimentation (International Association of Gerontology, 1955); and field studies (Le Gros Clark, 1955). We need to establish norms and conditions of change and decline with age, and in order to do this we shall have to re-appraise our interviewing, questionnaire, sampling and statistical techniques. The time

is ripe too for detailed reviews of certain aspects of psychological research on old age, since the discipline is growing rapidly and timely historical and general surveys, e.g. Granick (1950a) and Granick (1950b), will help us to see our problems clearly and direct our researches more effectively. Whatever problems and methods we choose, we should always carefully consider the advantages of combined cross-sectional and longitudinal studies, e.g. Jones (1950), for combined studies can be expected to produce interesting facts that either method used alone would not produce.

(*b*) *Action research* in the psychology of ageing would not only demonstrate to the community the value of psychological work, but would also provide a stimulus for the formulation of important questions, the construction of adequate theories and the preparation of proper instruments; moreover, it would provide a thorough proving ground for all these things. We should not scorn unusual methods, e.g. mobile research units and panels of volunteer subjects are in many ways ideal techniques in the study of ageing. We should tie our research closely with both professional and non-professional bodies, e.g. we should recruit subjects from and take our experiments to universities, industries and institutions as well as to homes, clubs and adult classes; we should endeavour to recruit part-time help from older people and provide opportunities for them to hear about the objectives and benefits of psychological research work on ageing and to have their comments and criticisms met.

(*iii*) THEORIES

For the most part there are no ready-made theories to guide the research worker toward significant psychological problems of ageing, and he will generally have to start from scratch. He should be careful, however, not to let his work be dominated by empiricism otherwise he will amass a wealth of not very meaningful facts, e.g. it would be pointless to administer complex instruments like the Rorschach Test or the M.M.P.I. to a sample of old people just to find out what happens; such instruments should be used either to test particular hypotheses drawn from general theories or else to complete or refine the test's norms—the two tasks demand quite different procedures.

Since the psychological study of ageing is likely to absorb the energies of psychologists for many generations to come, it will be worth their while to spend a good deal of effort on the task of theory building. For example, the long years of stability and socialization typical of the adult personality and its relative freedom from the conflicts of earlier years make it unlikely that Freudian theory will help us to understand the ageing person, whereas a theory of trait-organization (Cattell, 1950) and the biosocial approach to personality (Murphy, 1947) are more promising. There are at least half-a-dozen theories or concepts of adult intelligence, each containing useful ideas but none having the comprehensiveness, logic and power of prediction that we like to associate with the term "theory"; the shaping of a unified theory of intellect is a gigantic task which will hardly be accomplished before psychologists formulate a partial but accurate theory of adult intelligence.

Relationships between heredity, physique, mental disease and temperament seem at last to be getting gradually clearer, and we should not hesitate to put our current theories to the test by repeating experiments on ageing subjects; we may find that we need to make corrections and additions to our original theories. We are finding that the changes and breakdowns of perceptual, learning and response processes in old age are providing us with additional facilities for building and testing our theories, e.g. of skill (Welford, 1950) and

brain function (International Association of Gerontology, 1955); there is such a variety of theoretical formulations in this field that we are almost certain to find that some are more useful than others and that we can set up crucial experiments to decide between rival theories.

The tendency for older people to seek out like company, the tendency for industry to group older people together, the setting up of old people's homes —all these situations give rise to problems which may be solved by the application of sociometric, group dynamic and human relations techniques; it is probable too that these theoretical approaches to human social behaviour will stand to gain in richness and rigour through having to cope with the variety of facts that their methods will reveal.

This report is intended as a contribution to the "strategy" of psychological research on ageing and has suggested that there are many advantages in having an informal but generally accepted research policy. Maturity and old age can be seen as a complex process of change and re-adjustment between the person and his environment, and the specific task of psychology seems to be to point the way toward reduced stress and greater achievement during the mature and declining years. The psychological study of ageing is a relatively new endeavour and poses the investigator with a variety of difficult questions. All things considered, the new venture has got off to a good start, since comprehensive literature surveys have been compiled (Shock, 1951); general reviews of the subject have been published (Gilbert, 1952); a Gerontological Society has been established and provides, through the *Journal of Gerontology*, up-to-date information on current literature, organizations and international activities; the A.P.A. has established a division on Maturity and Old Age, and the Annual Review of Psychology gives periodical surveys of the technical literature. Nevertheless, the impression given by developments so far is that research lacks direction and cohesion, and for this reason discussion of general policy does not seem out of place. The policy recommends that psychologists should carefully examine the *Problems*, *Methods and Theories* of psychological research on ageing before undertaking their projects. The problems encountered in research on ageing fall into six main groups: (*a*) personality, (*b*) the physical basis of adult behaviour and experience, (*c*) intelligence, thinking and achievement, (*d*) perceptual, learning and responses processes, (*e*) social behaviour and (*f*) special problems. The methods of research on ageing are those of general psychology, although some methods are especially suited to the task, whilst others have to be invented or adapted; it is suggested that action research has a special application in this field. There is little in the way of theory to guide the research worker, except in the case of a number of rather specialized problems; it is suggested that theoretical formulations should not be ignored, since the variety and complexity of facts on ageing are such as to demand comprehensive explanatory concepts and to make pure empirical work barely worthwhile.

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